We claim

1. A hybrid organic – inorganic composite film comprising gold ions diffused in a lipid film deposited on a substrate.
2. A hybrid organic – inorganic composite film as claimed in claim 1 wherein the gold ions are selected from cationic and anionic forms of gold.
3. A hybrid organic – inorganic composite film as claimed in claim 2 wherein the cationic form of gold ion comprises auric chloride.
4. A hybrid organic – inorganic composite film as claimed in claim 2 wherein the anionic form of the gold ion comprises chloroaurate obtained from chloroauric acid.
5. A hybrid organic – inorganic composite film as claimed in claim 1 wherein the substrate is selected from the group consisting of glass, quartz and transparent polymer.
6. A hybrid organic – inorganic composite film as claimed in claim 5 wherein the transparent polymer is selected from plastic, Perspex or fiber material.
7. A hybrid organic – inorganic composite film as claimed in claim 1 wherein the lipid comprising the film layer is selected from the group consisting of fatty acids, fatty amines, fatty alcohols and phospholipids with a hydrocarbon chain length of 12 to 22 carbon atoms.
8. A hybrid organic – inorganic composite film as claimed in claim 7 wherein the fatty amine comprises octadecylamine.
9. A hybrid organic – inorganic composite film as claimed in claim 7 wherein the fatty acid comprises arachidic acid.
10. A hybrid organic – inorganic composite film as claimed in claim 7 wherein the fatty alcohol comprises octadecanol.
11. A hybrid organic – inorganic composite film as claimed in claim 7 wherein the phospholipid comprises 1 – phosphatidylethanolamine.
12. A hybrid organic – inorganic composite film as claimed in claim 1 wherein the thickness of the lipid film is in the range of 250 Å – 1000 Å.
13. A hybrid organic – inorganic composite film as claimed in claim 12 wherein the thickness of the lipid film is about 500Å.
14. A method for the manufacture of a hybrid organic – inorganic composite film comprising depositing a lipid film on a substrate and immersing the lipid film deposited substrate in an aqueous solution of gold salt to obtain a hybrid organic – inorganic composite film with gold ion diffused in lipid film.

15. A method as claimed in claim 14 wherein the concentration of the gold solution is in the range of 10^{-5} to 1 M.
16. A method as claimed in claim 14 wherein the gold ions are selected from cationic and anionic forms of gold.
17. A method as claimed in claim 14 wherein the gold salt is selected from the group consisting of chloroaurate and auric chloride.
18. A method as claimed in claim 14 wherein the lipid film is formed by a method selected from the group consisting of thermal evaporation, spin coating, drop coating and Langmuir – Blodgett method.
19. A method as claimed in claim 14 wherein the substrate is selected from the group consisting of glass, quartz and transparent polymer.
20. A method as claimed in claim 19 wherein the transparent polymer is selected from plastic, Perspex or fiber material.
21. A method as claimed in claim 14 wherein the lipid comprising the film layer is selected from the group consisting of fatty acids, fatty amines, fatty alcohols and phospholipids with a hydrocarbon chain length of 12 to 22 carbon atoms.
22. A method as claimed in claim 21 wherein the fatty amine comprises octadecylamine.
23. A method as claimed in claim 21 wherein the fatty acid comprises arachidic acid.
24. A method as claimed in claim 21 wherein the fatty alcohol comprises octadecanol.
25. A method as claimed in claim 21 wherein the phospholipid comprises 1 – phosphatidylethanolamine.
26. A method as claimed in claim 14 wherein the thickness of the lipid film is in the range of 250 Å – 1000 Å.
27. A method as claimed in claim 26 wherein the thickness of the lipid film is about 500Å.
28. A method for glucose sensing comprising using a hybrid organic – inorganic composite film comprising of gold ions diffused in a lipid film deposited on a substrate.
29. A method as claimed in claim 28 wherein said film is immersed in an aqueous solution, the presence of glucose being indicated by colour change in the film.
30. A method as claimed in claim 28 wherein the gold ions are selected from cationic and anionic forms of gold.
31. A method as claimed in claim 28 wherein the gold salt is selected from the group consisting of chloroaurate and auric chloride.

32. A method as claimed in claim 28 wherein the substrate is selected from the group consisting of glass, quartz and transparent polymer.

33. A method as claimed in claim 32 wherein the transparent polymer is selected from plastic, Perspex or fiber material.

34. A method as claimed in claim 28 wherein the lipid comprising the film layer is selected from the group consisting of fatty acids, fatty amines, fatty alcohols and phospholipids with a hydrocarbon chain length of 12 to 22 carbon atoms.

35. A method as claimed in claim 34 wherein the fatty amine comprises octadecylamine.

36. A method as claimed in claim 34 wherein the fatty acid comprises arachidic acid.

37. A method as claimed in claim 34 wherein the fatty alcohol comprises octadecanol.

38. A method as claimed in claim 34 wherein the phospholipid comprises 1 – phosphatidylethanolamine.

39. A method as claimed in claim 28 wherein the thickness of the lipid film is in the range of 250 Å – 1000 Å.

40. A method as claimed in claim 39 wherein the thickness of the lipid film is about 500Å.